

REMARKS

Claims 1-34 are pending in this application. Claims 1, 8-9, 11-12, 14, 21-22, and 24-25 have been amended as indicated above.

Rejection – 35 U.S.C. § 102(b) over Maimets

The Office has rejected claims 1-3, 8-9, 11-16, 21-22, and 24-26 under 35 U.S.C. § 102 (b) as being anticipated by Maimets (U.S. Patent No. 5351720) for the reasons listed on page 2 of the Office Action. Applicant respectfully traverses this rejection.

Independent claims 1, 9, 11-12, 14, 22, and 24-25 contain the limitation that the composite preform is compressed while the electrical current flows through the preform. Independent claims 10, 13, and 26 contain the limitation of flowing a specific current and voltage range through the composite material.

The Office rejects the above claims under 35 U.S.C. § 102 (b), arguing that Figure 17 and the accompanying disclosure of Maimets disclose each and every limitation in these claims. Applicants respectfully disagree. Maimets discloses a method and apparatus for internal repair of a conduit system. *See Abstract*. The apparatus illustrated in Figure 17 is a sleeve 1' that can be expanded using a plug 31 until the sleeve 1' contacts the conduit system wall 11. *See Figures 14a – 14d and accompanying description*. The sleeve 1' is made of thermoplastic material 44 containing resistance wires 47 (or fibers that are connected to an electrical current). When an electrical current is applied, the thermoplastic material is melted. *See column 20, lines 3-18*. The sleeve 1' then expands and forces the thermoplastic material 44 against the conduit system. *See Figures 14a – 14d and accompanying description*.

The Office, however, has not shown that Maimets teaches that the thermoplastic material 44 is compressed while the electrical current flows therethrough. Moreover, the Office has not shown that such compression occurs in a pressure ranging from about 0.7 to about 4.1 MPa (as recited in some of the dependent claims). And in light of the pressure ranges mentioned in column 19 of Maimets, it is unlikely that the Office could show such a pressure range.

The Office has also not shown that Maimets discloses the claimed current and voltage ranges. And is unlikely that the Office can make such a showing since the Office admits on page 3 of the Office Action that Maimets lacks “an explicit disclosure of the exact current and voltage used to melt the thermoplastic matrix.”

Thus, the Office has not shown that Maimets teaches each and every limitation in the claims. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 103 over Maimets

The Office has rejected claims 5-7, 10, 18-20, and 23 under 35 U.S.C. § 103(a) as being unpatentable over Maimets for the reasons listed on page 3 of the Office Action. Applicant respectfully traverses this rejection.

As noted above, independent claims 1, 9, 11-12, 14, 22, and 24-25 (and their dependent claims) contain the limitation that the composite preform is compressed while the electrical current flows through the perform. The Office has not substantiated that Maimets either teaches or suggests this claim limitation.

As to independent claims 10, 13, and 26 (and their dependent claims), the Office argues that Maimets teaches the invention substantially as claimed, but recognizes that Maimets does not disclose the exact current and voltage ranges recited in the claims. The Office argues that

such current and voltage ranges would have been “clearly within the skill level of the art” and the skilled artisan would have been able to determine how much voltage/current to apply to arrive at the desired degree of melting.

Applicant submits that such a rationale does not satisfy the Office’s burden in showing a *prima facie* case of obviousness. A statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” is not sufficient to establish a *prima facie* case of obviousness. *See M.P.E.P. § 2143.01.*

As well, the sleeve 1’ of Maimets and the composite perform of the invention are melted and used for different purposes. The sleeve 1’ containing the thermoplastic material 44 is melted and used to repair a damage conduit section. In the invention, the composite perform is melted so that it can be shaped in any manner. *See paragraph 11 of the present specification.* Based on these different purposes, and absent evidence to the contrary, it is not certain that the skilled artisan would not have arrived at the claimed ranges by modifying the disclosure of Maimets. Such an uncertainty is increased since Maimets is absolutely silent as to what voltages or currents can be used.

Thus, the Office has not shown that Maimets teaches or suggests each and every limitation in the claims. Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

Rejection – 35 U.S.C. § 103 over Maimets and Gould

The Office has rejected claims 4, 17, and 27-34 under 35 U.S.C. § 103(a) as being unpatentable over Maimets in view of Gould (U.S. Patent No. 4061827) for the reasons listed on pages 3-4 of the Office Action. Applicant respectfully traverses this rejection.

As noted above, independent claims 1, 9, 11-12, 14, 22, and 24-25 (and their dependent claims) contain the limitation that the composite preform is compressed while the electrical current flows through the perform. The Office has not substantiated that Maimets (whether alone or combined with Gould) either teaches or suggests this claim limitation.

As to independent claims 10, 13, and 26 (and their dependent claims), the Office argues that Maimets teaches the invention substantially as claimed, but recognizes that Maimets does not disclose regulating or controlling the current and voltage. The Office argues that such control would have been obvious to the skilled artisan to obtain the desired degree of melting. Again, as mentioned above, the Office has not substantiated that Maimets (whether alone or combined) either teaches or suggests the claimed current and voltage ranges. How could it have been obvious to control the current and voltage within a certain range when there is no range disclosed?

As to the combination of the Maimets and Gould, the Office argues that Gould teaches that fibers made electrically conductive using conductive carbon tend to product unstable runaway temperatures as electrical current is supplied and this situation can be remedied by using a controller. The Office contends that it would have been obvious for the skilled artisan to have regulated the voltage/current of Maimets as taught by Gould to eliminate the runaway temperature rise during heating.

Applicant respectfully disagrees. As admitted by the Office, Gould teaches that fibers made electrically conductive using conductive carbon can produce unstable temperatures. But Maimets only describes the use of "electrically conductive fibers." *See column 20, lines 15-16.* The undersigned could not find any description in Maimets that the fibers are carbon fibers. Absent a disclosure of carbon fibers, the Office can not show that there would be any "runaway" temperature when current is supplied to the fibers. Thus, without a runaway temperature, there can be no reason for the skilled artisan to regulate the current/voltage of Maimets.

Thus, the Office has not substantiated that the skilled artisan would have considered these claims obvious over the proposed combination of Maimets and Gould. Accordingly, Applicant requests withdrawal of this rejection.

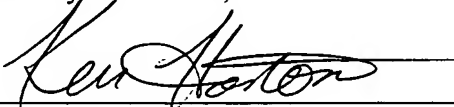
CONCLUSION

For the above reasons, Applicant respectfully requests the Office to withdraw the above grounds of rejection and allow the pending claims.

If there is any fee due in connection with the filing of this Amendment, including a fee for any extension of time not accounted for above, please charge the fee to our Deposit Account No. 50-0843.

Respectfully Submitted,

By



KENNETH E. HORTON

Reg. No. 39,481

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